CLAIMS

What is claimed is:

1. A method of tracking phase error of OFDM pilots in an OFDM frame comprising:

adjusting a width of a closed loop tracking bandwidth of a pilot phase tracking loop while receiving OFDM data symbols to minimize frequency errors resulting from frequency pushing and frequency pulling in an OFDM transceiver.

2. The method of Claim 1 wherein the adjusting comprises operating the pilot tracking loop at a first closed loop tracking bandwidth that is wider than a nominal closed loop tracking bandwidth when tracking one or more OFDM data symbols at the beginning of a data portion of an OFDM MAC frame.

3. The method of Claim 2 wherein the adjusting further comprises reducing the closed loop tracking bandwidth of the pilot tracking loop from the first closed loop tracking bandwidth to the nominal closed loop tracking bandwidth when tracking OFDM data symbols subsequent to the one or more OFDM data symbols.

4. The method of Claim 1 wherein the frequency error between receive and transmit operations in the OFDM transceiver is maintained at less than about 100 Hz.

5. The method of Claim 1 wherein the frequency error between receive and transmit operations in the OFDM transceiver is minimized in order to support OFDM communications using 64-QAM and higher modulations.

6. The method of Claim 1 wherein the frequency error between receive and transmit operations in the OFDM transceiver is minimized in order to support OFDM communications using QPSK and higher modulations.

7. An OFDM pilot tracking system comprising:

means for adjusting a width of a closed loop tracking bandwidth of a pilot phase tracking loop while receiving OFDM data symbols to minimize frequency errors resulting from frequency pushing and frequency pulling in an OFDM transceiver.

8. The system of Claim 7 wherein the means for adjusting comprises means for operating the pilot tracking loop at a first closed loop tracking bandwidth that is wider than a nominal closed loop tracking bandwidth when tracking one or more OFDM data symbols at the beginning of a data portion of an OFDM MAC frame.

9. The system of Claim 7 wherein the means for adjusting further comprises means for reducing the closed loop tracking bandwidth of the pilot tracking loop from the first closed loop tracking bandwidth to the nominal closed loop tracking bandwidth when tracking OFDM data symbols subsequent to the one or more OFDM data symbols.

10. The system of Claim 7 wherein the frequency error between receive and transmit operations in the OFDM transceiver is maintained at less than about 100 Hz.

11. The system of Claim 7 wherein the frequency error between receive and transmit operations in the OFDM transceiver is minimized in

order to support OFDM communications using 64-QAM and higher modulations.

12. The system of Claim 7 wherein the frequency error between receive and transmit operations in the OFDM transceiver is minimized in order to support OFDM communications using QPSK and higher modulations.

13. A method of reducing the effect of frequency pushing and frequency pulling in an OFDM tracking loop comprising:

operating a pilot tracking loop at a first closed loop tracking bandwidth that is wider than a nominal closed loop tracking bandwidth when tracking one or more OFDM data symbols at the beginning of a data portion of an OFDM MAC frame, wherein the first closed loop tracking bandwidth is used to track out frequency errors due to frequency pushing and frequency pulling in an OFDM transceiver; and

reducing the closed loop tracking bandwidth of the pilot tracking loop from the first closed loop tracking bandwidth to the nominal closed loop tracking bandwidth when tracking OFDM data symbols subsequent to the one or more OFDM data symbols.

14. The method of Claim 13 wherein the frequency error between receive and transmit operations in the OFDM transceiver is maintained at less than about 100 Hz.

15. The method of Claim 13 wherein the frequency error between receive and transmit operations in an OFDM transceiver is minimized in order to support OFDM communications using 64-QAM and higher modulations.

16. The system of Claim 13 wherein the frequency error between receive and transmit operations in the OFDM transceiver is minimized in order to support OFDM communications using QPSK and higher modulations.